



2012


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Recommended Citation

Kirby, Dale; Barbour, Michael K.; and Sharpe, Dennis B., "Student Perceptions and Preferences for Tertiary Online Courses: Does Prior High School Distance Learning Make a Difference?" (2012). *Education Faculty Publications*. 114.

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STUDENT PERCEPTIONS AND PREFERENCES FOR TERTIARY ONLINE COURSES: DOES PRIOR HIGH SCHOOL DISTANCE LEARNING MAKE A DIFFERENCE?

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Participation in online distance education is growing at a rapid pace across North America. At the secondary school level, growing numbers of North American students are taking advantage of online education opportunities. Enrolments in K-12 online learning in the U.S. have increased by an average of 30% annually over the past decade and projections indicate that up to 50% of secondary school courses could be delivered online by 2019 (Christensen & Horn, 2008; Watson, Murin, Vashaw, Gemin & Rapp, 2010). Similar levels of growth have been found in Canada too (Barbour, 2010a). The expansion of online instruction in secondary school has been rationalized in a variety of ways. Online learning, as an alternative to traditional face-to-face instruction, is frequently promoted as a flexible route for providing advanced level and specialized courses and as an effective means of coping with shortages of qualified teachers. It has also been touted as a more fiscally efficient delivery option for education providers and authorities faced with reduced public funding and budgetary shortfalls (Wise & Rothman, 2010).

As the demand for online learning has grown, some researchers have directed their efforts toward better understanding the characteristics and perspectives of online learners. Boyd (2004) categorized four sets of factors that could be used to characterize these learners as follows: (a) technical factors, (b) external influences, (c) personal traits, and (d) learning styles. The research has identified commonalities and differences in these factors for learners at different ages and stages of learning.

Online Learner Characteristics

Much of the research into online learner characteristics has been directed toward adult learners and students at the tertiary level. These inquiries have focused on learning outcomes, student and instructor perspectives, and issues of a technical nature (Barbour & Reeves, 2009; Dobbs, Waid, & del Carmen, 2009). Online courses have been shown to be ideal avenues for learning for college and university students who are highly independent, autonomous, self-motivated, and self-efficacious (Wang, Peng, Huang, Hou, & Wang, 2008). Research has also repeatedly demonstrated that students are most frequently drawn to online learning options for reasons of convenience, flexibility, and course availability (Bocchi, Eastman, & Swift, 2004; Kirby, Sharpe, Bourgeois, & Greene, 2010).

Students who enrol in online learning courses at the secondary school level are generally not representative of the broader student population. Research has shown these learners to be superior to their cohorts in terms of literacy and technology skills and overall academic abilities (Haughey & Muirhead, 1999). Secondary-level students who participate in online courses also tend to be more self-disciplined and motivated in comparison to their peers (Barbour & Reeves, 2009). Studies of their transition from high school have found these students to be more likely to be planning to attend university in the year following graduation (Kirby & Sharpe, 2011).

Learner Perceptions

Previous research has found that students who have a positive opinion of their online experiences are more inclined to enrol in additional online courses (Dobbs, Waid, & del Carmen, 2009; Stewart, Waight, Norwood, & Ezell, 2004). Studies of student perceptions of online courses that require them to reflect on their experiences have yielded varied results. While convenient scheduling, flexible pace of learning, choice of courses, and improved computer literacy are regarded as advantages, some of the more frequently noted challenges include communication and technical difficulties, limited or no personal interaction with students and instructors, and feelings of isolation (Dobbs et al., 2009; Kirby, Sharpe, Bourgeois, & Greene, 2010; Lofstrom & Nevgi, 2007).

To date, very few studies have followed up with online learners after they have departed secondary school and transitioned to tertiary-level studies. In one such study, Dodd, Kirby, Seifert and Sharpe (2009) found that university students who completed secondary school online courses performed better academically and were more likely to persist in university to a second year of studies. In another follow-up study, Kirby, Sharpe, Bourgeois, and Greene (2010) interviewed college and university students who completed online courses in high school and found that many of these students believed that their high school online learning experiences enabled them to develop skills that facilitated their further learning at the tertiary level.

Purpose of Current Study

This research study was carried out to investigate if there are differences between students who complete secondary school courses exclusively in traditional classrooms and those who complete secondary school courses in an online environment with regard to their perceptions of and preferences for online learning at the tertiary level. Specifically, we investigated relationships between student perceptions of their self-regulatory skills and their experience with online distance education in learning environments at the secondary school and/or university levels. We also compared students' expectations of online distance education, their perceptions of online courses, as well as their satisfaction with learning through online distance education.

Study Context

About 65% of public schools in the Canadian province of Newfoundland and Labrador are located in settlements with 5,000 or fewer residents and are considered to be "rural schools" (Newfoundland & Labrador, 2010). With a declining rural populace and coinciding smaller numbers of students in the upper levels of high school, education authorities in the province have turned to distance education in order to provide for a reasonably comprehensive roster of senior high school course offerings and address teacher recruitment and retention issues that often challenge rural school staffing. As a result, a growing proportion of rural students in Newfoundland and Labrador are completing some of their high school education through distance courses that utilize a combination of synchronous and asynchronous online technologies. This setting provides an ideal environment for studying the attitudes, perspectives, and experiences of students educated in virtual school environments.

Methodology

Sample and Participants

A total of 160 fourth-year undergraduate students at Memorial University of Newfoundland comprised the sample for this research. Each of the students in the sample signed up for and completed one or more online courses since entering university in 2006. All of these students were high school graduates of the Class of 2006 who participated in a survey of first-year university students in 2007.

The original sample of 369 students included all 162 first-year students who had completed one or more online distance courses at rural high schools in Newfoundland and Labrador as well as 207 students randomly selected from the remaining population of 485 first-year university students who had attended rural schools in the province but had not completed online distance courses in high school. Of the 160 students in the sample (were part of the original group of 369), 127 were successfully contacted and interviewed during the Winter 2010 semester, for a response rate of 79.4%. Among those interviewed, 56 students (44.1%) had completed high school online distance courses and the remaining 71 students (55.9%) had not.

Instrumentation and Data Collection

The online survey instrument utilized for this research was designed to collect information from students regarding their self-regulatory skills in online learning environments as well as their expectations and perceptions of online distance education courses. The survey contained a number of multi-item scales representing latent constructs. All of the survey items utilized a 4-point Likert-type multiple choice response format with values of strongly agree, agree, disagree, and strongly disagree.

Four items on the survey were designed to assess the self-regulatory skills of students enrolled in distance education courses while another 12 items measured students' distance education self-efficacy. Both of these multi-item survey components were adapted from an instrument designed by Holcomb, King, and Brown (2004). Lower composite scores for these constructs reflect greater perceptions of self-regulation and distance education self-efficacy.

Four constructs included in the survey, self-evaluation (4 items), goal setting (5 items), environment structuring (4 items), and time management (3 items), were adapted from Barnard, Paton, and Lan's (2008) Online Self-regulated Learning Questionnaire (OSLQ). Lower composite scores on each of these dimensions are indicative of greater self-regulation in online learning by students.

Seven further survey items, originally devised by House, Weldon, and Wysocki (2007), assessed student expectations of their online distance education course by asking them to identify if they expected their online courses to be more or less difficult as compared to courses delivered in the traditional face-to-face setting. Lower scores for this variable suggest that students expect that they will learn the same amount and receive the same grade if they complete a course in an online format.

An 11-item scale included on the survey was created by Barnard, Paton, and Rose (2007) to assess student perceptions of online course communications and collaboration. Lower overall scores on this scale reflect more positive perceptions toward online course communication and collaboration. The final survey construct, satisfaction with distance education, was adapted from a scale designed by Walker (2005). As with the previous variable, a lower composite score for this series of items is indicative of a higher level of satisfaction with distance education courses while a higher score suggests a lower level of satisfaction with this course delivery format.

Data Analysis

The data were analyzed using version 18 of the Statistical Package for Social Sciences (SPSS). First, the reliability of each of the multi-item constructs included on the survey was estimated using the Cronbach's Alpha coefficient of reliability. Next, a series of one-way analyses of variance (ANOVAs) were carried out to compare the scores on the composite variables for the group of students who completed online distance education courses in high school with the scores of the students who did not have this previous experience.

Results

Table 1 lists the mean scores and Cronbach's alpha values for each of the composite variables assessed by the survey. In each case, the Cronbach's alpha values for the latent constructs were .70 or better, indicating a high degree of inter-item reliability and acceptable standard of agreement for this type of research (Nunnally, 1978).

Table 1 Mean Scores and Cronbach's Alpha Values for Composite Variables

Variable	Mean Scores		
	High School Distance Course Experience	No High School Distance Course Experience	Total
Self-Regulation ($\alpha = .706$)	1.97	1.94	1.95
Distance Education Self-Efficacy ($\alpha = .880$)	2.16	2.19	2.18
Self-Evaluation ($\alpha = .724$)	2.40	2.54	2.47
Goal Setting ($\alpha = .820$)	2.03	2.02	2.03
Environment Structuring ($\alpha = .869$)	1.76	1.81	1.79
Time Management ($\alpha = .710$)	2.54	2.45	2.49
Distance Education Expectations ($\alpha = .843$)	2.68	2.63	2.65
Perception of Course Communication and Collaboration ($\alpha = .858$)	2.42	2.59	2.51
Satisfaction with Distance Education ($\alpha = .910$)	2.50	2.50	2.50

The mean scores for each of the survey constructs were very similar for students who had high school online distance course experience and those who did not have high school online course experience. Overall, the survey

respondents tended to perceive themselves as self-regulated learners. Their responses indicated that they had a sense of self-efficaciousness or competence with regard to their participation in distance education courses.

Of the self-regulatory behaviours assessed by the survey, the students most strongly agreed that they tended to regulate their learning environments. They also agreed that they proactively set goals for their learning in distance courses. They were somewhat less likely to agree that they employed self-regulated learning strategies such as self-evaluation and time management.

The overall mean score for the “distance education expectations” variable was 2.65 which suggests that the students tended not to agree that they would learn more or receive a higher grade in distance education courses as compared to courses delivered in the traditional face-to-face format. With regard to students’ perception of distance course communication and collaboration, the overall score of 2.51 for this variable suggests that students held a slightly negative view of communications and collaboration in distance education courses. A similar score of 2.50 for satisfaction with distance education suggests that the students who participated in the study were somewhat dissatisfied with their distance education course experiences.

The results of the ANOVAS indicate that when the high school online learners were compared to the other university students who did not have any prior online learning experience there were no significant differences between them on any of the measures included in this study (see Table 2). It is notable, however, that the p-value is very close to the .05 significance level for the construct measuring student perception of distance course communication and collaboration. A significant finding would have indicated that the university students in the high school online learner group had a more positive attitude toward communication and collaboration in the distance education course format.

Table 2 Analysis of Variance Results for Student Comparisons

Variable		df	MS	F	p
Self-Regulation	Between Groups	1	.020	.143	.706
	Within Groups	125	.138		
Distance Education Self-Efficacy	Between Groups	1	.029	.162	.688
	Within Groups	116	.177		
Self-Evaluation	Between Groups	1	.596	2.536	.114
	Within Groups	124	.235		
Goal Setting	Between Groups	1	.001	.003	.958
	Within Groups	122	.075		
Environment Structuring	Between Groups	1	.54	.196	.659
	Within Groups	120	.276		
Time Management	Between Groups	1	.264	.792	.375
	Within Groups	123	.333		
Distance Education Expectations	Between Groups	1	.070	.316	.575
	Within Groups	121	.211		
Perception of Distance Course Communication and Collaboration	Between Groups	1	.773	3.832	.053
	Within Groups	114	.202		
Satisfaction with Distance Education	Between Groups	1	.001	.002	.962
	Within Groups	119	.249		

Discussion

With increasing numbers of students participating in online course in at all levels, it becomes more important to understand the characteristics and perspectives of the population of online learners. The information yielded may enable educators to better engage online learners, provide them with more effective supports, and further grow online course enrolments to include a wider audience (Barbour, 2010b). Taken together, the findings of the current study suggest that it is important not to draw conclusions about the perspectives and preferences of students based on their prior participation in online learning.

Overall, the results indicate that the self-regulatory learning behaviours that are frequently linked to positive experiences and outcomes in online and distance education courses were equally apparent in all of the participating university students regardless of whether or not they had previously studied online. It is possible that,

as was indicated in a previous study by Kirby, Sharpe, Bourgeois, and Greene (2010), secondary school students may report that they develop positive learner characteristics through online education experience. However, we found no evidence that high school online learners were advantaged or superior to other university students in terms of their sense of self-efficacy in distance education or their self-regulatory learning behaviours.

Further, our findings suggest that, despite their earlier exposure to online learning, the attitudes and expectations of students who participated in online in secondary school do not differ significantly from those of students whose first encounter with online learning occurred the university setting. This is contrary to the claims made by proponents of online learning at the secondary level (North American Council for Online Learning & Partnership for 21st Century Skills, 2006). It is notable that both groups held quite similar and somewhat negative views of distance education in terms of their expectations and satisfaction. Similarly, both groups did not view the quality of communication and collaboration in distance courses as favourable. Evidently, willingness to repeat the online learning experience at the tertiary level should not necessarily be interpreted as a preference for this form of learning.

The absence of significant differences between the groups on any of the variables measured may be due to student experiences with distance education at university level having a mediating effect on any impact that secondary school experience with online learning might have had. It is also possible that students who are attracted to and enrol in university-level studies hold similar views of online and computer-mediated education already.

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